

## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A quantization method for an iterative decoder, comprising the steps of:  
equally dividing received signal levels into predetermined intervals, said intervals occupying a range  $m \times 2^n$  ( $n$  is a positive integer)  ~~$m \times 2^1$  ( $1$  is a positive integer)~~ where the transmission signal level from the transmitter is  $m$ ; and  
quantizing the level of a signal received in each period, using the predetermined intervals,  
wherein the iterative decoder includes at least one component decoder, said at least one component decoder computing a metric using a predetermined number of bits more than a number of bits required to represent the received signal levels.
2. (Currently Amended) The quantization method of claim 1, wherein the positive integer  $n$  ~~[[1]]~~ is 2.
3. (Currently Amended) The quantization method of claim 1, wherein the positive integer  $n$  ~~[[1]]~~ is 1.
4. (Cancelled)
5. (Previously Presented) The quantization method of claim 1, wherein the predetermined number of bits are two bits when the iterative decoder has a code rate 1/4 or above.
6. (Previously Presented) The quantization method of claim 1, wherein each component decoder operates on an input signal using a maximum a posteriori probability (MAP) algorithm or a soft output Viterbi algorithm (SOVA ).
7. (Currently Amended) A quantization method for a turbo decoder in a

communication system, comprising the steps of:

equally dividing received signal levels into 8 or 16 quantization scaling factor intervals using 5 to 7 quantization bits within a range  $m \times 2^n$  ( $n$  is a positive integer)  ~~$m \times 2^1$  ( $1$  is a positive integer)~~ where the transmission signal level from the transmitter is  $m$ ; and

quantizing the level of a signal received in each period, using the intervals,

wherein the iterative decoder includes at least one component decoder, said at least one component decoder computing a metric using a predetermined number of bits more than a number of bits required to represent the received signal levels.

8. (Currently Amended) The quantization method of claim 7, wherein the positive integer  $n$  is 2.

9. (Original) The quantization method of claim 7, wherein the number of the quantization bits is 6.

10. (Original) The quantization method of claim 9, wherein the quantization scaling factor interval is 8.

11. (Cancelled)

12. (Previously Presented) The quantization method of claim 7, wherein the predetermined number of bits are two bits when the iterative decoder has a code rate 1/4 or above.

13. (Previously Presented) The quantization method of claim 7, wherein each component decoder decodes an input signal using a maximum a posteriori probability (MAP) algorithm or a soft output Viterbi algorithm (SOVA).